

The Etiology, Symptoms and
Treatment
OF
Idiocy and Imbecility.

BY

T. DUNCAN GREENLEES, M.D., F.R.S.E.

*(Read before the Medical Congress,
Bloemfontein.)*

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The Etiology, Symptoms and Treatment of Idiocy and Imbecility.

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WHEN asked to open a discussion on such an important subject as this before the Special Section of the Congress I felt some diffidence in accepting the responsibility, more particularly as these diseases in civilised countries, and much less in our Colonies, have only within recent years received the attention their importance deserves.

Further, although I have the honour of being perhaps the only medical officer in Africa of an institution reserved for such conditions as found among children, yet, from circumstances over which I had no control, my experience has been less than it would otherwise have been had the public taken greater interest in the matter, and supplied me with more satisfactory material than I have had to deal with, and which I am convinced exists in the Colonies.

The Institute for Imbecile Children, Grahamstown, for the education, training and treatment of backward children, was founded in 1894 on my recommendation to the Government

of Cape Colony, from the fact, as revealed by the census of 1891, that imbecility was very prevalent, and that nothing had yet been done by the Government to (1) either take steps to prevent the disease, or (2) provide suitable means for educating and training children of backward mental and intellectual development. I further urged the Government to prohibit by legal enactment the marriage of cousins—one of the most prolific of the causes of imbecility, failing which I called upon them to provide the necessary accommodation for the offspring of such marriages.

The former proposal was obnoxious to a legislature, many members of which were perhaps personally interested in this question, but I experienced no difficulty in obtaining funds for the erection of a suitable building where such degenerates could receive the training and education now so common in civilised countries.

With this preamble I will proceed to the subject-matter of this discussion.

ETIOLOGY OF IMBECILITY AND IDIOCY.

I have nothing new to add to the known facts as regards the causes of imbecility and idiocy, and therefore my remarks under this heading will be brief.

(1) *Heredity predisposition* to the neuroses is a well-known ascribed cause in many cases of imbecility. The neurotic influence may pass through generation after generation, producing in the one family a genius and in another an imbecile or idiot. In such cases extremes are common, and we often meet in the same family examples of high intellectual development alongside cases of degenerate stagnation, such as mutism, deafness or even imbecility or idiocy. The disease may skip one generation altogether, appearing in descendants again as one of the neuroses, such as mental instability of some kind.

(2) *Consanguineous Marriage*.—It is my opinion that if two cousins marry, in whose family there is no hereditary predisposition to any disease whatever, the progeny may be expected to be perfect beings in mind and body. But how rare are families with a clean bill of health, and how seldom do we

find two members of such a family marry! Rather, it is that members of neurotic families tend towards love and matrimony. Some old bachelor has even said that love itself is one of the neuroses and closely akin to insanity. The selfish desire to keep property, especially lands, within the family, regardless of consequences to the progeny, undoubtedly explains the frequency of consanguineous marriages in these colonies, especially among the Dutch inhabitants.

(3) *Tubercular diathesis* in the parents is another frequent cause of imbecility in the offspring, and Ireland says that two-thirds, or even more, are of the scrofulous constitution. While tobercle is a comparatively rare disease among the white population of this country, I have found tubercular disease, especially in the form of *tabes mesenterica*, most common among the imbecile children under my care at Grahamstown, being the chief cause of death in all cases when an *autopsy* was made.

(4) *Inebriety in the Parents*, or ancestors, is recognised by all authorities as a potent factor in the production of idiocy in the offspring. Beach and Shuttleworth found it in 16 per cent. out of 2,400 cases, Künd found it in 11 per cent. out of 923 cases. Ireland is not disposed to give this factor the important position other writers do; while he admits that the children of drunken parents often possess an unhealthy nervous system. They are weak, unsteady and exciteable, and have often a diseased craving for spiritous liquors. He quotes the interesting experiment of Ch. Ferè who produced monstrosities by poisoning with alcohol the albumen of eggs in an incubator.

(5) *The Unsatisfactory Social Existence* pursued by women in this 20th century tends to produce children who, according to Sequin, are insane before their brains could become deranged by their own exertions—insane by a reflex action of the excitable nervous system of the mother.

The more women tend to unsex themselves, the less are they able to bear healthy children, and, in the interests of future generations, such unsexed creatures should not be allowed to marry until they had passed the menopause.

(6) *Maternal Fright or Mental Shock*, while pregnant, have been often described as the cause of mental degeneracy in the offspring; but I am inclined to think that it is only in cases where other influences exist, which it is desired should be kept

in the back ground, that this cause is prominently advanced. In a large proportion of the cases that have come under my care, that is the cause first advanced by the parents, and it is often the case that all other possible or probable causes are denied.

(7) *Syphilis in the Parents* undoubtedly contributes to the production of degenerates, and I have had several cases of infantile syphilis under my care—this being the only ascertainable etiological factor.

(8) *Injuries to the Child*, either before birth, at the time of birth or afterwards, from falls, etc., have been noted as causes, and acute diseases, such as measles, convulsions while teething, etc., are often the only ascribable cause of cases of imbecility.

In discussing the various etiological factors in the production of imbecility and idiocy, it must not be forgotten that it is rarely only one cause is found; rather, we usually find several factors—all of which may contribute to the causation—either as predisposing or exciting causes.

THE SYMPTOMS OF IDIOCY AND IMBECILITY.

Here I will briefly refer to the main symptoms manifested in the various types of these diseases, and for this purpose I have no hesitation in ascribing my indebtedness to Dr. Ireland's classic work "Mental Affections of Childhood."

Dr. Ireland gives various classifications of idiocy and imbecility, and in these, like the classification of other diseases, the pathological one is perhaps the most satisfactory and the one least open to objection.

(1) *Genetous Idiocy*.—Here the diseased condition is complete before birth, and heredity is prominent. The circulation is feeble, temperature subnormal, and often rickets exist. The strumous taint is well marked, and the palate generally keel-shaped and narrower than normal. The teeth are late in appearing, irregular, over-crowded, and notched or furrowed. The genetous idiot is usually of short stature, retaining an infantile appearance for many years. When lying in bed they usually assume an ante-natal posture. Deformities are common, and degenerate stigmata, such as in the ears, are frequently found. The testicles, one or both, are occasionally absent. Slavering is common, and rumination often occurs.

Two varieties are given—the *Mongolian*, with dwarfish, broad face, and squat figures, and the *Amaurotic* form, occurring chiefly among Jewish children, where the intelligence, instead of developing, begins to droop, and the child himself gradually fades away from gross brain or cord lesions.

(2) *Microcephalic Idiocy*.—By microcephaly we mean any head with a circumference less than 17 inches; less than this would indicate defective intellect. The microcephaly may be general or partial, but, as a rule, the encephalic deficiency is general. The head is narrow and tapering towards the top (*oxycephalic*). The cord and basic ganglia are better developed than the brain, and the cerebellum is relatively larger than in the normal brain. Beach could only discover five layers in the frontal gray matter in a case under his care; the cells were rounded or pear shaped, and the processes absent or stunted. Gratiolet maintains that microcephaly precedes birth—the growth of the brain having languished from the beginning—and he dates the arrest of brain development as from the fifth month of interuterine life.

The microcephalic idiot is active, but incapable of continuous attention, and he sometimes reminds one of the lower animals, imitating their actions and cries. Mentally they are frequently quarrelsome and unmanageable, biting and kicking when angry, but yet with a certain amount of intelligence, such as might be found in a well-trained dog.

Hydrocephalic Idiocy.—Hydrocephalus, or water in the head, is the most fatal of all childish nervous disorders. The condition may be arrested without intellectual impairment, but, as a rule, it is associated with idiocy. Pressure may cause impairment of one or more senses, and squinting is common, while the voice is sometimes lower than normal. The accumulation of fluid may be in the ventricles,—the more common position—or it may be between the membrane and the brain, pressing the centre down to the base of the skull. In the latter condition the intellectual faculties do not suffer so much as in the former. Frequently we find both conditions present in the same case.

Hydrocephalic idiots are frequently of feeble constitution and scrofulous diathesis. They often improve mentally and intellectually under treatment, but they are slow and lethargic in their movements, and disinclined for exertion of any sort.

If associated with epilepsy or paralysis the prognosis is unfavourable.

(4) *Eclampsic Idiocy*.—Arrest of brain development, following after convulsions, from whatever cause arising, is the definition of this form of idiocy. The child remains uneducable, and is often a mute. In treatment the physician should be satisfied if the interval between the fits is increased. I have the records of one case where the fits ceased entirely, and the child has made satisfactory progress in her education, although her intellectual faculties are slow of development, and she is much behind other girls of her own age.

(5) *Paralytic Idiocy*.—This condition is due to gross cerebral lesions accompanied by paralysis: hemiplegia is common, paraplegia rare. If the cause originated the disease before birth the loss of power may be noted at the time the child is born; if later, then the onset is usually ushered in by fever or repeated convulsions. As the child grows older all the various complicated symptoms and accompaniments of gross nervous lesions appear; atrophy of the muscles, ankylosis of the joints, athetosal movements, spastic rigidity, with finally trophic changes which usually terminate the case.

The intellect is blunted, or actual idiocy exists, although in some cases the mind is but slightly impaired. Sometimes the entire hemisphere is atrophied; then there is symmetry of the skull.

The origin of the lesion is supposed to be centred in the circulatory apparatus of the brain, occurring mostly in the middle cerebral artery from inflammation, or else embolism or thrombosis of the cerebral vessels may cause the disease in the first instance. Improvement mentally and intellectually is impossible, although the physical condition may be stationary.

(6) *Traumatic Idiocy* naturally depends upon the site and the extent of the injury to the brain tissue, whether these be the result of wounds produced after birth, or by accident, or wounds in the foetus in attempts, for example, to procure abortion or from injuries to the child from the narrowing of the pelvic outlet and the use of the forceps in delivery. But unless there is some marked constitutional tendency, idiocy need not necessarily result after even the more severe injuries to the head at birth.

Traumatic idiocy is said to be more common among boys

than girls, because of the larger size of the male head, and occurs more frequently among first-born children, owing to the highly emotional state of the mother and the greater resistance offered by the passage to the passenger than occurs in later confinements. While mothers often ascribe idiocy in children to falls in childhood, the physician should be very guarded in accepting any such explanation, for not infrequently a predisposing neurotic diathesis exists which the mother is anxious to hide. The symptoms depend upon the date of the injury. If before birth, then the intellectual faculties *never* develop, while if afterwards, the imbecility may only be partial but there is an arrest in the further development of the mind.

(7) *Inflammatory Idiocy* is due to meningeal or cerebral inflammation, occurring before or after birth. Although mothers often ascribe their child's weak intellect to inflammation of the brain, the condition is a rare one, is generally fatal, and can only be recognised after death. The pathological consequences of inflammation of the brain, viz., atrophy of the brain tissue proper, and hypertrophy of the neuroglia, are sometimes found.

(8) *Sclerotic Idiocy*, first described by Bourneville in 1882, is a rare form, associated with sclerotic changes in the brain, following the tubercular diathesis, or there may be a hereditary tendency and alcoholism or the neuroses. The symptoms are repeated spasms, sometimes limited to individual groups of muscles, or passing into general convulsions. This is followed by general paralysis, more or less complete, and contractures which are at first, at all events, removable.

The intellectual impairment is very profound, and is frequently accompanied by loss of one or more of the senses. The fits recur, mental torpor increases, and death usually takes place before puberty is reached.

(9) *Syphilitic Idiocy*.—Syphilis, as a cause of idiocy, is rare according to most observers, not occurring in more than two per cent. of all cases. It is possible that syphilitic patients die young; hence, it is rare that we meet with true syphilitic idiocy.

About the time of the second dentition the disease appears

to attack the nerve elements, and headache, nystagmus, epileptiform seizures, or paralytic attacks result. The general health declines, and the intelligence, which up to now had been normal, decreases until utter idiocy results, and the child usually dies in four or five years.

The association of the thyroid gland with defects, mental, intellectual, and physical, is one of the most interesting subjects of modern medicine. That the brain requires more than arterial blood for its development and functionalisation, and that this "something" is the secretion of the thyroid gland, can easily be known by the derangement that results from obliteration or hypertrophy of this organ.

The wonderful effects upon goitre, and the improvements—temporary it may be—in the intellectual development of cretins by the administration, by mouth, of the thyroid gland of the sheep and other animals, clearly indicate the important role this gland exercises in the human frame. The three conditions, dwarfism, cretinism and giantism, are, in my opinion, closely associated with defective or abnormal functional activity of this gland.

(10) *Cretins* are rare in this country, but in some parts of Europe, such as Lombardy and Switzerland, more than half the children are cretins. They are usually dwarfs, head large, forehead low, owing to overgrowth of coarse hair, eyes large, heavy and half-closed, eyelids thick with few eyelashes. The nose is flat, the mouth larger than normal, and the tongue big and thick. Mentally, there is apathy and lethargy; the child seems unable or disinclined to exert himself in any way. He eats much, and sleeps more. He is abnormally fat, and yet his limbs are feeble. The neck is usually thick and presents goitrous enlargement.

(11) *Idiocy by Deprivation*.—Case where the mental development is arrested, or it may be only handicapped by deprivation of one or more of the senses, such as congenital blindness or deafness. In the direction of educating such cases, the Americans are far ahead of us. The famous case of Laura Bridgman being an example of what can be done by patient training and education.

Idiots may become insane, and we have from time to time

outbursts of mania or melancholia in institutions for imbecile children.

It is to be noted that in the previous pages I have retained the term "idiocy," but it should be distinctly understood that my remarks applied to "imbeciles." The difference between the two conditions, idiocy and imbecility, is that in the former the disease is ante-natal in origin, while in the latter the condition of mental enfeeblement comes on after birth.

There are degrees of mental weakness and endeavours have been made to classify idiocy and imbecility.

Esquirol takes *speech* as the criterion of mental capacity, and roughly we are accustomed to call *idiots* those unable to speak, and *imbeciles* those who can articulate. This is a very crude and hardly scientific division.

Again, these divisions may be classified into three grades :—

- (1) Those capable of receiving sensory impressions;
- (2) Those with reasoning powers ; and
- (3) Those capable of forming abstract ideas—even although slowly and with difficulty.

Ireland divides his pupils, for educational purposes, into the following classes :—

- (1) Those who can neither speak nor understand language.
- (2) Those understanding a few easy words.
- (3) Those who can speak and do simple work.
- (4) Those who can be taught to read and write.
- (5) Those able to read books for themselves.

THE TREATMENT OF IDIOCY AND IMBECILITY.

The treatment of these conditions naturally should be considered as medical, moral, and educational.

The Medical Treatment is mainly symptomatic — our endeavours being directed to the attainment of health.

The Moral Treatment consists of efforts towards improving the mental tone, correcting faulty habits, and developing the character.

The Educational Treatment should be directed towards the awakening and exercising of those intellectual functions that

are undeveloped or dormant. The means adopted for this purpose are too numerous to mention here: only schools with special appliances and specially trained teachers, with individual teaching, can benefit even the best of these children.

Such cases are utterly unsuited for ordinary schools; the most intellectual imbecile boy is slow to learn, he falls behind in his lessons, and the teacher soon loses all interest in a pupil that seems to bring him no credit at all.

Therefore, it is only in specialised institutions, where medical treatment and care can be carried on at the same time as the teacher patiently trains and educates, that the best results are noted. Such an institution was established at Grahamstown by the Government, but I am forced to confess that it is a failure. The explanation of our failure is not far to seek: it is rare that a mother will admit that her child is an idiot or imbecile, or even specially backward intellectually, unless it is utterly hopeless and uneducable; and even if she admits to these facts, the maternal instinct is so keen that she cannot part with her helpless progeny, rather allowing it to grow up a useless member of society and a burden on the family and the State.

The people of these Colonies are not yet educated to the knowledge that, by patient training, much can be done to even the most backward and feeble-minded child.

It rests with us, as medical men, to persuade the parents on all matters pertaining to the health—mental, physical, and intellectual—of their children, and we fail in our duty if we do not advise our clients as to the best methods of dealing with their mentally weak children.

I am of opinion, however, that the objects and purposes of our discussion are higher and more searching than simply considering our subject from the standpoints of etiology, pathology, and treatment.

I believe we have a duty to perform to the State as well as to the patients—a duty that, as a Medical Congress, if we failed to carry out, we should fail in the high ideals we have of our profession.

It may not be to the financial interests of the profession if we preached the gospel “prevention is better than cure,” but our profession has never been behind in its endeavours to confer

"the greatest good on the greatest number," and the financial aspect of a medical man's life has always occupied a very secondary position.

I have shewn now, and I have shewn on other occasions, that the three great factors in the causation of nervous and mental diseases are heredity, alcohol and consanguineous marriages—conditions that are all of them preventable.

We are not here to discuss how these causes produced nervous lesions and mental degenerates, for it has been proved over and over again. We, therefore, are left facing a fact, with a clear duty before us to enquire whether some means cannot be found to reduce the forces that conduce to the degeneration of our race.

The Eastern Province Branch of the British Medical Association has already, by resolutions, approached the Cape Colony Government on the subjects of intemperance, the medical control of children at school, and their education in hygiene and physiology. It remains for this Congress to raise its much more powerful voice, and as the medical teachers of the people, to warn these Colonies of the dangers of intemperance, and of too close in-breeding, on the future race.

Much fuss has recently been made about the degeneracy of the Anglo-Saxon race. Commissions have sat to consider the best means to improve the physique of mankind in general and the English in particular, and the subject has even been discussed in Parliament.

I believe the cure is with the people themselves, and it is our duty as medical men, shewing them the way, beginning with the infant, and carrying on the teaching all through school-life.

It is a pity our legislators are so busy considering questions referring to irrigation, railway extension, and scab in sheep, that they can find no time to devote to the health of the people, and that while Agriculture requires a Minister, Public Health has to be relegated to an unimportant position, forming one of the many functions of another Minister.

The American States are already awaking to the importance of health questions, as they affect the welfare of the people, and

safeguard the physical and mental stability of the common race.

The question of marriage between epileptics, or persons of unsound or enfeebled mind is, in this respect, of the utmost importance. We have seen the effects of such marriages in these Colonies. I have known two epileptics, both suffering likewise from infantile paralysis—marry! What can be expected of the progeny of such a union? And yet ministers are found to marry them. Doctors are silent; and the poor enfeebled individuals, possessing possibly little more intellect than is required to procreate their own species, are allowed to populate the world with monstrosities that ultimately become a burden on the State.

The Indian State enacted a law quite recently making illegal such unions—even going so far as to illegalise marriages where one or other of the parties was under the influence of a transmissible disease, such as phthisis.

The marriage of such degenerates endangers the health of families, and adds greatly to the already heavy burden of human suffering.

Sterilisation of degenerates, and even the lethal chamber, has been suggested, but society is not yet ripe for such drastic measures.

Our own duty is plain, and that is to educate the people through the Legislature, and for this purpose I respectfully submit the following Resolutions to the consideration of this Congress:—

(1) That this Congress urges upon the various Governments of South Africa—

(a) A close supervision over marriages with the following objects:

- (a) To decrease the number of consanguineous marriages.
- (b) To insist upon the good health of both the contracting parties.

(c) To illegalise all unions when, at the time of the marriage, one or other of the parties suffered from epilepsy, imbecility, insanity or any of the transmissible diseases.

N.B.—This can be done, in the first instance, by circularising magistrates and clergymen, pointing out the risks to health, and the tendency to the formation of a degenerate race by allowing these improper marriages.

(b) The necessity for dealing specially with children of weak intellectual development, or backward mentally (without being actually imbecile), and that this subject be specially brought to the notice of the Educational Departments.

(c) The necessity for a periodical medical inspection of all schools directly under the Educational Departments.

(d) The necessity for the teaching of hygiene, temperance, and the simpler laws of physiology in all our public schools.



